MIXED-SIGNAL SINGLE-CHIP INTEGRATED SYSTEM ELECTRONICS FOR DATA STORAGE DEVICES

ABSTRACT OF THE DISCLOSURE

An integrated data storage control system provides, in a single integrated circuit, RDC, servo logic, ATA interface, microprocessor, and other formerly discrete components in one highly integrated system design. The integrated circuit is rendered using a single integrated circuit technology type (e.g., digital CMOS) for all components. Analog and digital circuits are combined in such a way as to eliminate or reduce noise or interference in digital circuits from analog circuit components. Individual elements may have their outputs and inputs MUXed together such that individual elements can be selectively switched (during testing modes) such that the integrated circuit emulates or behaves in the same or similar manner as one of the prior art components. The present invention may be applied to magnetic hard disk drives (HDDs) or other types of storage devices such as floppy disk controllers, optical disk drives (e.g., CD-ROMs and the like), tape drives, and other data storage devices.